Couple Residential Location and Spouses Workplaces

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Extended Abstract ITEA 2014

Research Question

The choice of residential location plays a key role in the understanding of urban dynamics. Strangely enough, the vast majority of models we are aware of describe residential location as if the decisions were made by a single individual: the household head, a dictator, benevolent or not. Indeed, the situation is far more complex. Residential location depends on the local characteristics of the housing unit, as well as on local amenities (see for example de Palma et al. (2005); de Palma et al. (2007) for applications in the Paris region). Moreover, often there is more than one active individual in the household, and these active members (usually husband and wife) have different job locations. In this case, the work location of each active member matters. One way to describe the decision process of the residential location choice is using a bargaining process framework. The weight of each member in this bargaining process depend on the characteristics of each household member.

One recurrent question in the framework of Collective models is the Pareto optimality of decisions. To the best of our knowledge, this has never been studied in the context of residential location choice (see Chiappori (1988); Chiappori (1992) for a general setting to analyze Pareto optimality of couples’ choices). More precisely, we study if there exists residential locations, other than the one already chosen by the household, such that each active member can be better off (and at least one strictly better off). We will show empirically that this is not the case. The second question we wish to address is to test the explanatory power of several variables which could potentially explain the bargaining power of the men and of the women in a couple. We will identify key factors (in absolute or relative terms) such as age, educational level, or nationality, which explain the bargaining power of the man and of the woman in a couple.

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Methodology

We develop a structural collective model assuming that spouses choose their workplaces before their residential location and we focus the analysis on the second stage (the residential location). This is relevant if the labor market is more rigid than the dwelling market in relation to life cycle and job stability. Statistics on mobility suggests that this is the case in the Paris region, the geographical extension studied here. Residential location depends on the spouses’ actual commuting times between their current workplace and all the other potential residential locations. This structural model takes into account both spouses individual preferences and their respective bargaining powers rather than mixing them in a household utility function which may not be consistent with the collective rationality. Other contributions such as Abraham and Hunt (1997) and Beharry-Borg, Hensher, and Scarpa (2009) do consider the influence of individual characteristics on residential location choices, but the associated coefficients mix the influence of individual preferences and bargaining powers. In this sense, this paper goes one step ahead in the analysis of couple decisions.

The objective here is to analyze the within-family decision process involving bargaining between members with diverging preferences, objectives, and constraints. Spouses may or may not have diverging preferences concerning local amenities, and these preferences probably differ from the preferences of singles. Given this change in preferences when couples get married, it is not possible to disentangle the spouses’ bargaining powers and their preferences for local amenities, and we will not try to do so. Instead, we consider a joint preference of the household for local amenities. On the opposite, suppose that the wife’s preference for her own commuting time is different from her husband’s preference for her commuting time. The influence of one spouses’ commuting time on the household residential location mixes both the role of his/her value of time and the role of his/her respective bargaining power. Such bargaining power depends both on the husband and wife individual characteristics. Neglecting spouses’ respective bargaining powers leads to biased estimates of the values of time of the household members.

We consider a partially optimal program in which negotiation takes place at various time horizons without possible commitment which would to compensate between long-term, medium-term, and short-term shares. However, the program is efficient within each term. Using data on the Paris Region, we elaborate a two-step method based on a minimum distance estimator to provide an unbiased measure of the value of time and of the spouses bargaining powers. In the first step, using a multinomial logit model, we estimate the reduced-form parametric model. This model is the result of the maximization of the weighted sum of spouses’ utilities. In the second step, we take into account the constraints imposed by Pareto optimality, using a minimum distance estimator method to estimate the parameters of the structural model. Variance and confidence interval of the structural parameters are obtained using a bootstrap technique.
Results

Each spouse’s bargaining power is normalized to 1/2 in the reference case (the two spouses are French and 40 years old), and the husband and wife bargaining powers always sum to 1, so that bargaining powers can be interpreted as percentages. Any increase in the woman’s bargaining power corresponds to a decrease of the same percentage for the husband’s bargaining power. The econometric results show that the spouse’s age, education differences, and the nationalities play a crucial role in determining the bargaining power. The magnitude of the effects depends on the covariates considered, but some general patterns emerge.

The bargaining power of the wife increases if she is more educated than her husband. Consider two equally educated men. The wife of the first man is more educated than the wife of the second. Our estimates show that, other things being equal, the bargaining power of the first wife is around 4.48% larger than that of the second wife. On the opposite case, if the man is more educated than his wife, then her bargaining power will be smaller of about 3.14%. The bargaining power of the wife also increases if she is older than her husband. Consider now two men of the same age. The wife of the first man is ten years older than him and the wife of the second man has the same age as him. Our estimates show that, other things being equal, the bargaining power of the first wife is around 1.28% larger than that of the wife in the second couple.

Moreover, the bargaining power of the women increases if she is French and married to a foreigner and decreases if she is foreigner and married to a French. Consider two French women. The first is married to a non-French man and the second is married to a French man. Our estimates show that, other things being equal, the bargaining power of the wife in the first couple is around 3.84% larger than that of the wife in the second couple. On the contrary, consider now two French men. The first is married to a non-French woman and the second is married to a French woman. Our estimates show that, other things being equal, the bargaining power of the wife in the first couple is around 7.18% smaller than that of the wife in the second couple.

References


